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April 2004

Worldwide Satellite Magazine

Vol. 2 No. 1



**Satellite
Broadcasting
Services**



**Your Satellite Connection
to the World**

SES GLOBAL

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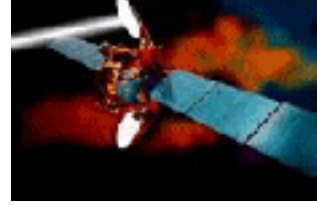
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NOTES FROM THE EDITOR

Broadcasting Services Come to the Fore



Having been burned by the dot.com bust and recent the telecom meltdown, satellite operators are rediscovering the broadcasting services market. The emphasis on broadcast services is evident to any observer. Broadcasting has always been the bread and butter of the satellite industry comprising a majority of its

revenue stream. This fits into the main advantage of satellites as a point-to-multipoint medium.

While telecommunications use of satellites have mainly been flat in the last few years, Euroconsult estimates that the number of video broadcast services on satellites have increased from 1,300 TV channels in 1995 to 11,400 2003. This growth will continue in the short and medium term with Euroconsult projecting over 30,000 TV channels on satellites by 2010.

The introduction of new applications such as Satellite Radio, HDTV and Digital Cinema, among others, are making broadcasting services even hotter. DTH services are also steadily growing. A recent report the Cable and Satellite Association of Asia (CASBAA), highlighted the growing subscriber base of DTH services in that part of the world. This month, News Corp. has further consolidated its recently acquired DTH operation from Hughes, renaming the company, DirecTV Group. News Corp. is also reincorporating in the U.S. from Australia, demonstrating its increasing stake in the U.S. market.

With a resurgent NAB show in Las Vegas this month, we focus this month's issue on new broadcast applications. Bruce Elbert discusses how satellite design is coping with changing broadcast needs and requirements. Joe Amor expounds on the virtue of Digital Cinema. We also have insightful views of the Asian and Latin American satellite markets in this issue.

Virgil Labrador

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CALENDAR OF EVENTS

April 2004

April 17-22 Las Vegas, NV **NAB 2004**
www.nabshow.com

May 2004

May 4-8 Cairo, Egypt **ITU Telecom Africa 2004**
Ms Jane Ratcliffe, Exhibition Manager
Tel: +41 22 730 6064
www.itu.int/AFRICA2004/

May 12-12 Prague, Czech Republic
AIB Global Business Media Conference
Tel: +44-20 8297 3993 Fax: +44-20-8852-0853
E-mail: register@aib.org.uk
www.aib.org.uk

May 25-27 London, UK **Mediacast 2004**
Helen Amos, Tel: +44-20 8910 7756
www.mediacast.net

Don't Miss ISCe 2004:

June 1-3,2004 Long Beach, CA, USA



ISCe is the premier annual conference and expo highlighting dual-use satellite-based services, applications and innovative technologies for the commercial, civil and military sectors. Key program highlights for ISCe 2004 include: Satellite Users Forum; Defense and Security Forum ; Global Navigation Forum ; Next-Generation Capabilities Forum ; Satellite Entertainment/DBS Forum ; U.S.-Asia Satellite Business Roundtable ; GPS Tutorials ; Satellite Career Day Program ; Innovation Gateway Pavilion.

For more information, please visit www.isce.com or contact Gina Lerma of Hannover Fairs USA, Inc. at (310) 410-9191 or glerma@hfusa.com

FEATURED EVENT

ISCe 2004: SES Global CEO Romain Bausch to Keynote Conference



Long Beach, California June 1-3, 2004

With less than two months to go before ISCe 2004, the conference and exhibition is shaping up nicely. Leading the distinguished lineup of speakers, **SES Global CEO Romain Bausch** will be presenting the keynote address. “SES Global is a



leader in meeting the communication needs of today’s consumers and businesses,” said Joachim Schafer, President of Hannover Fairs USA, the organizer of ISCe. “We are excited to have Romain Bausch share his thoughts on the worldwide broadband communications market and his vision for tomorrow’s opportunities.”

The conference will be highlighting key sessions organized around different fora on Defense and Security, Navigation, Next-Generation Capabilities, among others.

Defense and Security Forum

A key panel in ISCe’s “Defense and Security” forum will discuss “Satellite Technologies for Port Security: Protecting the “Soft Underbelly” in the War on Terrorism.” “With homeland security as a top priority on the agenda, the Coast Guard is at a heightened state of alert protecting more than 361 ports and 95,000 miles of coastline,” said Art Paredes, ISCe Chairman. “We are honored to have **Captain Peter Neffenger**, USCG Commanding Officer and Captain for the Port of Los Angeles/Long Beach discuss what processes are being implemented to detect and prevent our Ports from potential acts of terrorism.”



Capt. Peter Neffenger

Other key speakers on Defense and Security Forum at ISCe include senior officials such as **Brig. Gen. Charles Fletcher, Jr.**, Assistant Deputy Chief of Staff G-4 - U.S. Army; **RADM Rand Fischer**, Director, Transformational Communications Office, NRO Communications Directorate - U.S. Navy; **Major General C. Robert “Bob” Kehler**, Director, National Security Space - Office of the Undersecretary of the Air Force; and **Lt. Gen. Brian Arnold**, Commander - USAF Space & Missile Systems Center (SMC).

Global Navigation Forum

Several sessions will cover the important topic of “Global Navigation” featuring a panel on “GNSS Interoperability; Dual-use Applications, National Security.” Speaking at the panel are **Col. Rick Reaser**, Chief Engineer, NAVSTAR GPS Joint Program Office - SMC/USAF; **Chris Wilson**, Vice President - Daimler Chrysler Research; **Prof. Guenter Hein**, Director, Institute of Geodesy and Navigation - University FAF Munich; **Keith McDonald**, Chairman - Navtech Seminars and **Dr. Terry McGurn**, Consultant and Former Senior Analyst - CIA.

Next-Generation Capabilities

The forum on “Next-Generation Capabilities” will be covering satellite broadband solutions for worldwide applications, including disaster relief, distance learning, advanced space systems and mobile platforms. Speakers include: **DK Sachdev**, President - SpaceTel Consultancy LLC; **Dr. Janet Poley**, President - American Distance Education Consortium; **Dr. Joseph Guerci**, Deputy Director, Special Projects Office DARPA; **Scott Carson**, President - Connexion by Boeing; and **Dr. Eui Koh**, President - Asia-Pacific Satellite Communications Council.

In addition, ISCe will also feature other forums including:

- **Satellite Users Forum**

FEATURED EVENT

- **Satellite Entertainment/DBS Forum**
- **U.S.-Asia Satellite Business Roundtable**
- **GPS Tutorials**
- **Satellite Career Day Program**
- **Innovation Gateway Pavilion**

feed and mount configurations. Our VSAT antennas have Intelsat and Eutelsat type-approvals. Patriot is your one-stop source for all satellite equipment. We are a stocking distributor of Cal-Amp LNB products, and carry all the top brands of C and Ku-Band transmitter (BUC) equipment. Patriot offers custom design and testing services.

Finding New Project Opportunities

“ISCe presents a wide array of opportunities for new business development to both satellite providers and end users,” said Joachim Schafer, president of Hannover Fairs USA . “While the exhibit hall is the obvious place to make new business contacts, several of the conference sessions, for example “Galileo Opportunities for U.S. Providers” and “Military Space R&D: Opportunities and Priorities,” are designed to provide attendees valuable knowledge for competing on future projects,” he added.

The exhibit floor will host a balance mix of operators, manufacturers and suppliers from the commercial and government sectors. Attendees can count on gaining valuable knowledge of breadth and depth of available offerings, while exhibitors benefit from face-to-face interaction with key decision makers from around the world.

Exhibiting companies at ISCe include:



Patriot Antenna Systems manufactures a complete line of commercial antenna systems for transmit/ receive (VSAT) and

receive-only applications. Antennas range from 60 cm to 6.1 meters with a variety of

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Advantech AMT designs and manufactures Solid State Power Amplifiers (SSPAs), Block Up-Converters, Transmitters,

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1W to 3200W for indoor or outdoor installations and cover S, L, C, X, Ku and Ka-bands. The product range also includes the satellite modems meeting Intelsat and DVB-S standards and the quad demodulators. Other products include the data broadcast receivers and antenna control systems.



Since 1982, **Electro-Radiation Inc. (ERI)** has been a Technology Leader in the development of adaptive Radio Frequency

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 - Satellite Users Forum
 - Satellite Communications Forum
 - Global Satellite Navigation Forum
 - Defense and Security Forum
 - Satellite Entertainment/DBS Forum
- GPS Training Seminars
- Special "Galileo Opportunities for U.S. Providers" presentation
- One-on-One Interviews with industry leaders
- U.S. – Asia Satellite Business Roundtable
- Matchmaking Program
- ISCe 2004 Awards Dinner
- Exhibition Center with product demonstrations
- Satellite Career Day

For complete program details, registration, exhibit sales and sponsorship opportunities, please visit www.isce.com or call +1 (310) 410-9191

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INDUSTRY NEWS

News Corporation to Reincorporate in the US

News Corporation announced that it will pursue a reorganization that would change their company's place of incorporation from Australia to the United States. In connection with this reorganization, News Corporation would also acquire from the Murdoch Interests the 58% controlling holdings in Queensland Press Pty Ltd (QPL) not currently owned by News Corp.

The proposal is subject to shareholder approval. The Murdoch family interests will not vote with other shareholders on any of the proposed transactions and the Murdoch voting interests will not increase if shareholders approve the proposal, according to a company statement.

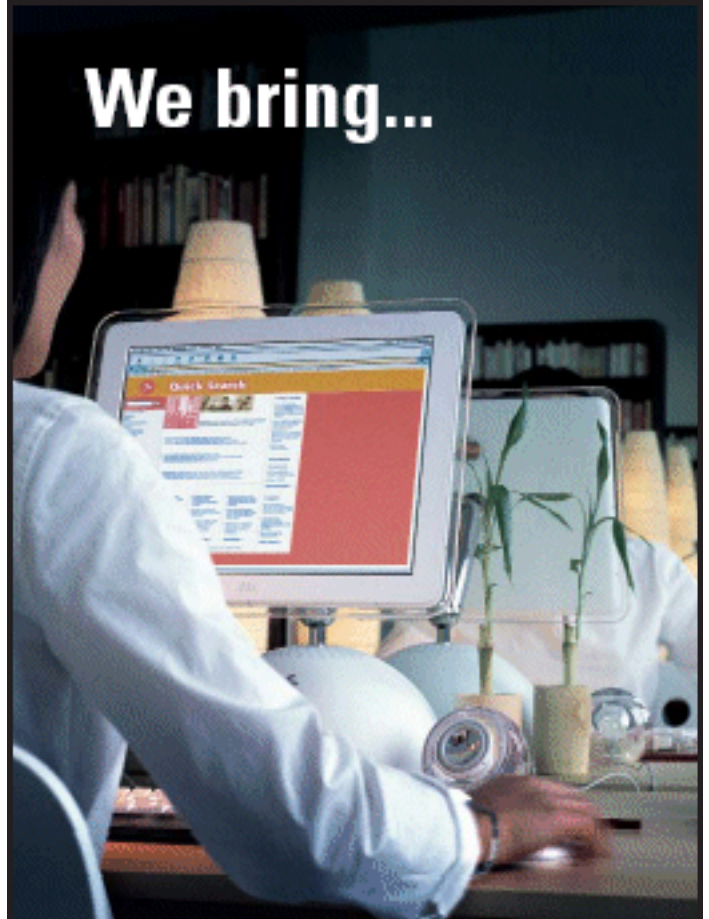
The News Corporation Limited (NYSE: NWS, NWS.A; ASX: NCP, NCPDP) had total assets as of December 31, 2003 of approximately US\$52 billion and total annual revenues of approximately US\$19 billion. News Corporation is a diversified international media and entertainment company with operations in eight industry segments: filmed entertainment; television; cable network programming; direct broadcast satellite television; magazines and inserts; newspapers; book publishing; and other. The activities of News Corp. are conducted principally in the United States, Continental Europe, the United Kingdom, Australia, Asia and the Pacific Basin.

News Corp. recently acquired 34 percent ownership of Hughes Electronics, operator of the largest satellite Direct-to-Home (DTH) service in the U.S., [DirecTV](#) and owner of international satellite operator PanAmSat. It has since renamed Hughes as the "[DirecTV Group](#)."

Media magnate, Rupert Murdoch, News Corp.'s Chairman and CEO and one of its largest shareholders, became a U.S. citizen in 1985 partly to comply with U.S. regulations at that time that required broadcasting licences be granted only to companies majority owned by U.S. citizens.

SES AMERICOM Acquires Verestar for \$18.5 million

SES AMERICOM has received U.S. [Bankruptcy](#) Court approval to acquire the assets of Verestar Inc., for a total cash consideration of \$18.5 million. The Fairfax, VA-based company focuses on managed solutions for satellite communications in government, broadcast, enterprise, and international services markets with strategically located teleport facilities in the U.S. and abroad.



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Your Satellite Connection to the World

The SES GLOBAL companies brings high-speed communications solutions to millions of homes and offices worldwide. The SES GLOBAL family consists of the world's premier satellite operators, each a leader in its respective market: SES AMERICOM in the U.S. and SES ASTRA in Europe, as well as the partner companies AsiaSat in Asia, Star One and Nahuelsat in Latin America, and SIRIUS in Europe. This network provides satellite communications across the globe, with the unequalled depth of service and audience that only regional market leaders can provide.

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SES GLOBAL

INDUSTRY NEWS

Since December 2003 Verestar has been operating under the protection of the [bankruptcy](#) court. In an auction conducted in New York on Tuesday, March 30th, SES AMERICOM offered a successful bid to acquire substantially all of Verestar's business and operations, which was approved today by the U.S. [Bankruptcy](#) Court for the Southern District of New York in Manhattan. As a result of the court's approval of the sale, SES AMERICOM will seek government authorizations, including FCC approval to transfer Verestar's communications licenses. Upon receipt of these authorizations, a process anticipated to take a number of months, the transaction will be finalized.

NDS wins DirecTV Back

NDS is back in control over DirecTV's encryption. As widely expected NDS has taken over responsibility for delivery of new smart cards to DirecTV customers as part of the renewal of its fresh agreement with the US DBS platform. Under a new six-year contract, signed March 1, NDS will also take responsibility for DirecTV's existing cards. NDS has hired a number of DirecTV employees who were responsible for conditional access services. There are no plans to replace the current card issue in the immediate future.

NDS already had influence at DirecTV through its ownership of the old Canal Plus-developed MediaHighway middleware product. Dr Abe Peled said NDS was now actively working on the deployment of a lower end MediaHighway product ("Core") together with the NDS-developed XTV personal video recorder as well as interactive middleware. "We have a much better view of the expected cost bases and the revenues going forward. We've undertaken extensive technical work to arrive at a middleware architecture that incorporates both the technology from our own low end middleware as well as the MediaHighway full java advanced system and the ability to incorporate DirecTV technology into the MediaHighway Advanced as well as MediaHighway Core." He added that NDS was planning to introduce the same low-level interface to MediaHighway Advanced as was already found on MediaHighway Core so that the only difference to the set-top box manufacturer would be the addition of memory and processing power. This would allow the operator to deploy a mix of Core and Advanced-enabled boxes while keeping to a single infrastructure. A similar process will take place on the PVR functionality. "If a manufacturer develops the low level drivers and interfaces to run MediaHighway Core or Advanced for DirecTV, he can use the same box, or a modification of it, to run a free-to-air MediaHighway MHP implementation in Europe."

Dr Peled said that although the TiVo personal video recorder currently used by DirecTV was integrated with the satellite product, it wasn't done so to the same extent as could be

achieved through NDS's own XTV system. "We have a critical competitive advantage in that XTV keeps the content encrypted on the disk in the original CA. If you would like to download a package of five movies and pay for them only out of the box, you could pay for them as you view them. In the current TiVo box the only way you can do that is via a subscription package or you pay for them as you record them," said Peled, adding that XTV was already integrated with the billing system. Asked what the cost advantages were Peled simply replied: "We're cheaper."

Peled declined to comment on whether an XTV contract could be expected from DirecTV, but took time to explain that News Corp's Chase Carey was "enthusiastic" about XTV "and we are working hard to develop new products."

Peled, and FD Rick Medlock, were talking to analysts March 17 and giving guidance as to the company's anticipated financials now that the DirecTV relationship was formalised. Medlock said NDS had been earning DirecTV subscription fees since March 1, and would help take this year's FY revenues to around £210m-£220m (previous guidance (£190m-£210m), and boosting EBITDA to £40m-£42m **after** exceptionals (£35m-£45m but **before**

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INDUSTRY NEWS

exceptionals). Medlock said there would be inevitable rises in costs, notably through increased head-count at NDS' Newport Beach facility.

Medlock explained that new contracts such as DirecTV were important, but it would take time for revenues to flow through to the bottom line. Consequently fresh guidance would be given at the end of April as to NDS' expectations for 2005.

MTV losing out in Mid-East

The Middle East satellite TV market is now broadcasting 11 local free-to-air music channels, each trying to outdo the other in appealing to its local audience. While MTV (and VH-1) still have a pay-TV following on Showtime, and rival pay-platforms Orbit (Music Now) and ART also have exclusive music channels on offer, these 11 are finding interesting ways of funding themselves in a non-pay environment.

A recent report from Amman, Jordan-based Arab Advisors Group (www.arabadvisors.com) says the Mid-East revolution has happened in the twinkling of an eye. The first free all-music channel only went on air in October 2001 (Dream TV) and now has 10 rivals. Lebanon hosts the largest number of free-to-air Music channels in the region with five channels broadcasting from Lebanon (including a the Saudi-owned Rotana channels). Egypt follows with four, followed by the UAE with two channels. There's every likelihood that Dubai, in the UAE, will see more music channels launched from its Dubai Media City facility.

But they all have to stay alive financially. Highly popular Dream (which also has a sister channel Dream 2) depends solely on advertising which reflects its broadcast mix of music, variety shows and even movies, while ETV mixes ads with SMS messaging and viewer-paid-for requests. ETV went live at the end of 2003 and broadcasts from NileSat and the Hellas bird for Greek and Cyprus viewers (and says it is looking to expand to a wider audience).

Mazzika has the same triple-play offering of ads, on-screen SMS and paid-for requests (as has the two Melody channels). Mazzika is owned by a consortium with some major local entertainment names, including a couple of record labels, and sees itself as a promotional vehicle for its stable of artists. Part of its revenue mix is seen as concert promotion and unashamed programme sponsorship.

Music Plus is another brand-new offering. Launched in Nov 2003 from NileSat the channel is currently testing various cash-raising options including on-screen SMS chatting that

include the MSN-type 'emotion-icons'. Nojoom launched on February 1 out of Dubai with the aim of promoting the Al-abdool Audio and Artistic Studios in Dubai. It currently depends only on advertising.

Rotana/Rotana Clip are Saudi-owned by packaged in music-crazy Beirut. Advertising, SMS and music request bring in the cash, although the 'Clip' screen is split into 3 with one panel offering telephone numbers for downloadable ring tones and the like. 'Strike' also depends on ads and SMS texting. Zen TV is a sister channel to the highly-popular Future TV operating out of Beirut, and part of the Hariri-backed media empire that includes a radio station and daily newspaper.

Arab Advisors say they see the growth in SMS on-screen messaging as inevitable, especially as telephone companies see the obvious revenue merits in Interactive Voice Recognition software and income sharing of texts-to-TV. Almost without exception the channels are also heavily promoting their own related web-sites, again with revenue at the forefront. **SM**

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NEW PRODUCTS

Multimedia Launches NewSat Broadband Service

After a high-profile launch last month, Australian service provider Multimedia has been aggressively promoting its NewSat high-speed, two way (V-SAT) satellite broadband service.



NewSat aims to fill a void in the market for next generation Video, Internet, Voice over IP and data

communications services for organizations not adequately served by traditional broadband technologies such as ADSL, ISDN and cable. NewSat has the capability to deliver high-speed communications to 60% percent of the world's population, providing access to North and South East Asia, the Indian sub-continent, China, the Middle East, Southern Africa and Australia. NewSat has already secured a US \$5 million deal, which could be worth US\$ 40 million over the life of the contract, with the United States Agency for International Development (USAID) for sites across Iraq as part of its post-war enforcement and governance program. NewSat is listed in the Australian stock exchange and has a current market capitalization of Aus \$ 100 million.

The NewSat True Broadband solution is superior in access, speed, applications and price (ASAP) to any other broadband service available in the Australasian market place. It promises to deliver high-speed communications to anyone, anywhere, with any application. For more information go to www.newsat.com.au

Foxcom Introduces C-Band Interfacility Fiberoptic Link

At the recently-conclude SAT 2004 show in Washington , D.C. Foxcom , a division of OnePath Networks, introduced the System 951, C-Band RF optical interfacility link . The System 951 joins other members of Foxcom's industry leading fiberoptic interfacility link products including, L-Band, IF and serial data. The System 951 provides full support for C-Band; uplink frequencies from 5.80 to 6.650 GHz and downlink frequencies from 3.40 to 4.20 GHz and meets Intelsat Standard A requirements.

The System 951 maintains Foxcom's leadership in offering cost effective fiberoptic interfacility links for the satellite industry. Foxcom's advanced fiberoptic technology reduces the attenuation, slope, phase shift, and group delay, maintaining

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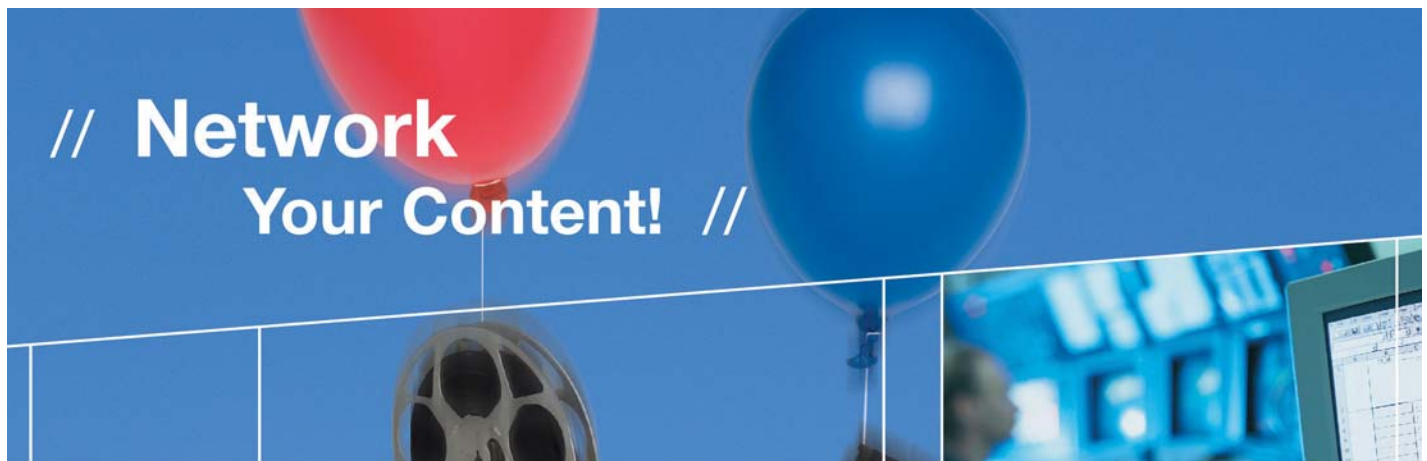
extremely low levels over distances of up to 15 kilometers. The C-Band's link state of the art lasers produce negligible chirp and optical distortion; critical for long distance links. Manual gain at the transmitter and receiver site allow for system optimization according to the application. As with all Foxcom interfascity fiberoptic links, LEDs, back panel alarms and monitors are provided indicating system health and interfacing with third-party M&C systems.

Wegener Introduces MediaPlan CM

Wegener Corporation introduced MediaPlan(R) Content Management (MediaPlan CM), its latest module for Compel Network Control System. MediaPlan CM provides advanced control of the iPump Media Server to enable network operators to take full advantage of the capabilities of a store and forward network.

“Our iPump System is complete with the addition of MediaPlan CM,” states Robert Placek, President and CEO of Wegener. “MediaPlan CM expands the control capabilities available in our Compel Network Control System to include the functions needed to run a store and forward network, such as playlist creation and scheduling.”

Wegener is demonstrating the full capabilities of MediaPlan CM at the National Association of Broadcasters (NAB) Convention in mid April in Las Vegas. The demonstration will include live control of an iPump network through MediaPlan CM. **SM**



ADAPTIVE BROADBAND MEDIA NETWORK

Content sharing, distributed production and processing and forwarding of contributions are key topics for Broadcasters and Media Companies. Getting your valuable content from wherever it is to wherever you need it is key for your success. Your investments in production facilities demand an adequate network infrastructure to connect your fixed and mobile sites.

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EXECUTIVE MOVES

Richard DalBello Appointed President of SBCA



DalBello

Former Satellite Industry Association (SIA) President Richard DalBello has been named the President of the Satellite Broadcasting and Communications Association (SBCA). DalBello has served as the SIA President for

the last three years. The SIA announced that it is searching for a replacement for DalBello, who started at SBCA on March 30.

DalBello, 50, joined SIA in August 2001, with over 20 years experience in the space and communication fields. Prior to joining SIA, Richard was the General Counsel of Spotcast Communications. Before Spotcast, Richard was Vice President of Government Affairs, North America, for ICO Global Communications, a global provider of mobile satellite communications services.

Before joining ICO, Richard served as the Assistant Director for Aeronautics and Space in the White House Office of Science and Technology Policy (OSTP). As assistant director, Richard played a lead role in the Administration's efforts to increase competition in the international satellite industry, develop next generation launch technologies, and to encourage the commercial use of the Global Positioning System. Prior to joining the White House, Richard held senior positions at NASA and the Department of Commerce.

Echostar's Michael Dugan to Retire

Michael Dugan, 55, has chosen to retire from his position as president and chief operating officer of Echostar effective April 30, electing to join the board of directors and serve as a senior advisor. The duties of president and COO of EchoStar will be absorbed by various executives throughout the company until a successor to Dugan can be found, according to a company statement.

Dugan, who has been with EchoStar for 14 years, will assume his duties as a board member May 6. He replaces Peter Dea, who has decided upon the conclusion of his term to resign from the board for personal reasons.

Dugan was the chief architect of the technological foundation upon which the success of DISH Network was founded. He began his EchoStar career as vice president of engineering for the subsidiary that later became EchoStar Technologies Corp. Dugan has shifted his responsibilities within EchoStar to devote more time to his family and personal interests. He plans to accelerate efforts to make his Whistling Elk guest ranch in northern Colorado available to disadvantaged children.

Dugan previously served one year on the EchoStar board of directors from 2002-2003. Prior to joining EchoStar, Dugan served as vice president of Engineering for Tandon Corporation, as well as director of Product Marketing and director of Engineering. He also served at Xerox Corporation for 15 years holding a variety of positions. He graduated from the Rochester Institute of Technology with a bachelor of science degree in electrical engineering.



Dugan

Tandberg Television Announce Key Appointments

Tandberg Television announce appointments for regional managements posts in North America. T. Sandra Giorgini, formerly of Scopus Network Technologies, joins Tandberg as Western Regional Sales Manager. Gene Price joins the company as Broadband Account Manager, Eastern Region. Meanwhile, Terry Allison has been promoted to Regional Sales Manager for Canada

Giorgini comes to Tandberg with extensive sales experience in broadcasting and other video network technologies. Most recently, Sandra served as Director of North American Sales, Broadcast and Cable Markets for Scopus, where she was responsible for new business and partnership development. and continuing ongoing relationships throughout the western region."

In his new role as Broadband Account Manager, Price will use his 20-plus years of experience in the broadband industry to bring telcos and other non-traditional broadcasters east of the Mississippi River into the broadcasting arena. Gene was most recently Sales Director for Next Level Communications and an Account Manager for Marconi Communications. Gene has also worked with Qwest Communications, Tadiran Telecommunications and BellSouth.

Allison has previously held two titles with Tandberg. He joined the company as Application Engineer, a position he held for two years before his promotion to Account Manager. **SM**



Giorgini

FEATURES

SES Global: “Best Outlook in Years”

By Chris Forrester
SatMagazine Editor for
Europe, Middle East and Africa

SES' president & CEO Romain Bausch confirmed to SatMagazine in late-March that it is keeping an eye open for possible acquisition and expansion targets “should opportunities arise”. He specifically referred to PanAmSat's Middle East coverage as filling the sort of gap neither SES Astra nor SES Americom currently covered. Bausch is already on record as saying that SES is looking to expand its coverage over Latin America. While giving nothing away as to formal plans, SES confirmed again it is still considering a second European listing to increase the free float of its stock, currently around 25%.

Bausch was speaking as SES Global reported a flat set of profit figures for 2003, as expected, and gave guidance that this year's results would also be under pressure. Revenues for 2003 were down 10.5% at €1.207bn (€1,349bn), with operating profits tumbling 29.7% and income damaged by the weak Dollar/Euro relationship. Strip out currency differentials (which also affected sales

revenues from AsiaSat which are denominated in Hong Kong dollars, themselves linked to the US dollar) and revenues were still down 3%. EBITDA numbers were similarly affected, down 14.8% at €942.8m (€1.107bn) or 7.9% based on ‘normal’ currency relationships. Nevertheless, SES Global's very real end of year profits stood at €205.4m (€204.5m). Had these assorted figures been prepared under the US GAAP guidelines the profit would have been expressed as €308m.

Costs will continue to rise during 2004, not helped by rising in-orbit insurance premiums, said Bausch. Other elements negatively impacting profits this year were the cost of sales on Americom Government Services, its specialist company looking after military and government business, and the “full consolidation” of Sweden's NSAB and AAP into Astra and Americom/Worldsat respectively. Regarding Worldsat's role, Bausch said he expected operating margins on these FSS birds as clearly being much lower than the DTH/DBS craft, and that the market could look at New Skies Satellite and its typical performance in terms of anticipated margins.



SES CEO Romain Bausch

However, Bausch took a robustly optimistic view for business going forward. He spoke about SES being “encouraged” by its “sound business developments” in particular SES Americom's position, its orders from Echostar and ‘Connexions by Boeing’ and firmly forecast “double digit growth for next year and 2006”. EBITDA margins for 2003 were still claimed to be “the highest in the industry” at 78.1% (82.1%). But Bausch warned that 2004's EBITDA margins would fall to “the low 70's percentage” and cited further investment in products like Satmode, Satlynx and AstraNet as aspects that would impact EBITDA. Insurance payments on the SES fleet, currently around €30m per year, would rise by some 15% this year. Free cash-flow position improved to €940m from €306m, up 207%, helped by insurance payouts banked during last year from the failed launch of Astra 1K.

Bausch admitted that six months ago SES was somewhat more optimistic for 2004's trading, but further consolidation amongst Europe's pay-TV operators (notably Sogecable in Spain) had

UK capacity shortage

Bausch and his team specifically addressed the upcoming UK capacity shortage, saying that once Astra 1KR and 1L were in position (late 2006) the Astra 2C, currently operating at 19.2 deg, would return to the “UK slot” at 28.2 deg East. This would free up 10 transponders for the UK market. However, there is still concern in some quarters about tightness of UK satellite capacity through 2005.

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impacted SES contracts. Nevertheless, SES' backlog has been improved from €5.98bn to €6.43bn with new European contracts signed by UK, Spanish and French broadcasters and as far as Germany was concerned with extended contracts from ARD-ZDF (in some cases to 2022). Bausch said his fresh optimism was "not based on hope, but on signed contracts which were giving us confidence, but also on the launch of new satellites. AMC 15 this year, plus AMC10 and 11 and AMC 14 and 16 in 2005, all will mean fresh contracts and generating revenues which we have factored into our 2005 and 2006 outlook." As for SES Americom, Bausch revealed that if AMC10 and 11 are successfully launched onto station, then SES has an option to convert its 'Put' contract on AMC 18 (ordered initially as a ground spare from

Lockheed Martin) which might then be reconsidered.

Of the 420 transponders commercially available on the Americom fleet, 297 (71%) were contracted as of December 31, 2003. In addition, the occasional use and broadcast special event inventory of 41 transponders were regularly under contract throughout the year.

Bausch said that SES Global, in particular under Americom Government Services needed extra capacity on non-SES satellites. A case in point, he said, was the Middle East where SES could not provide coverage. He stressed SES was not looking to acquire "all of PanAmSat. We have a strategic objective to strengthen our position in those parts of the world

where we could do with more coverage, and we are looking at growth in those areas." In other words he did not rule out that SES might be interested in certain PanAmSat assets where the orbital asset made sense and fitted into the SES Global mix.

As to currently budgeted activity, it is clear that SES is coming to the end of its hardware building. In 2003 it spent a total of €625m on new satellites. Last year that fell to €276m. This year it expects to spend around €670m, but 2005's expected spend falls to €420m and further falls in 2006 to around €70m. While some specific payments may move from one planned quarter to the following quarter, Bausch said the trend was clear. And the analysts seem to agree, suggesting that last year's impressive tripling of cash-flow would

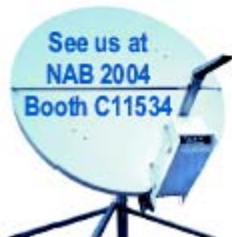


Comtech EF Data, an industry-leading developer of SATCOM equipment, is now shipping the newest member of its bandwidth efficient satellite modem product line, the CDM-570L. The CDM-570L offers cost effective performance. Ideal for optimizing L-Band satellite communications, this modem features:

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- ◆ 10/100 Mbps Ethernet Port for Management
- ◆ Optional Module for IP Networking



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further gather pace as 2005 and 2006 business kicked in.

Sarah Simon, senior analyst at investment bankers Morgan Stanley, stated in a note that the SES briefing was “in our opinion, the most bullish outlook for the fixed satellite services (FSS) market that we have heard for three years...” She agreed that the Morgan Stanley model saw SES operating margins return to at least 75% in 2005 and subsequent years.

SES said that while some parts of the world were suffering from over-capacity in terms of transponder availability, other regions were short of capacity, notably Europe and Astra’s 28.2 deg position (which served the UK). Patrick McCarthy, SES Astra’s CFO, explained that with the successful launch of Astra 1KR and Astra 1L into position (during 2005) then Astra 2C (currently serving clients at 19.2 degrees) would be released for its “very dynamic” UK role together with 10 transponders for the UK and 6 covering Europe. This would satisfy short-to-medium term demand. Bausch admitted that in Latin America and Asia there remained an over-supply of capacity especially in video broadcasting.

Bausch said he was concerned over Intelsat’s expanding role especially now that the former Loral satellite were incorporated into Intelsat’s fleet, especially in terms of its governmental clients. “We want to avoid Intelsat taking any advantage of its position in the international markets because of their former signatories and the regulatory environment outside the US.” Bausch explained that Intelsat could end up having preferential treatment from the US

SES Astra launch manifest

Astra 1KR	Q3-2005
Astra 1L	Q3-2006

SES Americom’s Launch Manifest

AMC-10	Launched Feb 5
AMC-11	May 2004
AMC-12 (Wsat-2)	Q3-2004
AMC-15	H2-2004
AMC-16	Q1-2005
AMC-13 (Wsat-3)	Q4-2005
AMC-14	H1/2006
AMC-18 (Spare)	Cancelled?

government, “and we have alerted the FCC on this point.”

One of SES’ key investments is in Satmode, their low-cost two-way service that would use existing dishes (although would need an upgraded LNB). Satmode comes on line this winter and McCarthy confirmed that Astra was in discussion with Canal Satellite Digital and Canal Plus for Fance, and Premiere (for Germany) about using the technology. There were no contracts in place “just yet”, and even this time next year might be premature for contract announcements. Bausch specifically told analysts that “unfortunately” SES would have to more directly involve itself in the development of some of its broadband-by-satellite activity.

Dean Olmstead, president of SES Americom, told analysts of its FCC applications for closer location of satellites above North America and in particular adopting a 4.5-degree separation (compared with the current 9 degrees). “There are no technical issues, just a market entry question,” he added, referring to objections lodged by SES’ rivals. “We have proposed 4.5 deg spacing using the so-called Gibraltar filings which we have the licence to operate. We call these slots ‘tweeners’ given they sit between the current slots allocated to DirecTV and Echostar. This approach would in effect double the



SES Americom President Dean Olmstead

capacity available to US residents and would handle the expansion needed for local-to-local [stations] and high-definition, as well as provide capacity for new entrants. The co-ordination discussions are continuing between us and Echostar and DirecTV. We are pleased with progress on those discussions. Separately, DirecTV has requested the FCC proceed with a rule-making [to cover the ‘tweener’ slots]. Most of the industry has opposed any sort of rule-making as an unnecessary delaying tactic by DirecTV. The FCC is considering whether or not to embark on this rule-making. Any delay would impact the issuance of the landing rights and this could mean a delay of between 6 months and 2 or 3 years.”

Olmstead added Americom had a clear advantage in the US market where HDTV was concerned. "A potential HD customer could reach some 80% of cable [head ends] using PanAmSat. They would reach 100% of cable by using our Cable 1 satellites [AMC10 and upcoming AMC11]. In my view PAS and Loral will decline over time. We expect to grow our [HD] market share."

SM

London-based Chris Forrester, a well-known broadcasting journalist is the Editor for Europe, Middle East and Africa for SATMAGAZINE. He reports on all aspects of the industry with special emphasis on content, the business of television and emerging technologies. He has a unique knowledge of the Middle East broadcasting scene, having interviewed at length the operational heads of each of the main channels and pay-TV platforms. He can be reached at chrisforrester@compuserve.com



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REGIONAL PROFILE

Who's Who in the Latin American Satellite Market

By Bernardo Schneiderman

In Argentina, Nahuelsat (www.nahuelsat.com.ar) is the only one local operator with one satellite in operation and in a planning stage for a new satellite to be launch in the next two years. Nahuelsat is the first domestic satellite in ku-band in Latin America.

In Brazil the Anatel (regulatory agency) opened the market for more operators during the Telecom Privatization Process in 1999. Beside the incumbent Star One (www.starone.com.br) controlled by Embratel, two new operators Loral Skynet do Brasil (www.loral-skynetdoBrasil.com.br) and Hispamar (www.hispamar.com.br) a joint venture of Hispasat and Telemar (Brazil Telco) are providing satellite capacity for Brazil. Star One up to now have only C-Band Satellites. The new operators are bringing Ku-Band to the domestic market. Beside this scenario the Ministry of Communication in Brazil announced during the month of March the intention to buy a Golden Share in Star One when MCI the Controller of Embratel finalize their change in major ownership controller. The main reason of this movement is that the Brazilian government may launch its own satellite mainly for military communication, estimated to cost US\$ 600 million. The Ministry of Defense and Communications is conducting the study. If the project is approved this year the satellite would launch in the second half of 2007, according to preliminary studies. The satellite could be used to offer commercial services under the regulator's new broadband services license, known locally as SCD (Data Communication Services). The first part of the study will examine possible demand for the satellite, and is expected to be concluded during the month of April.



Latin America has 40 countries and the main economic and demographic regions are the following: Andean, Brazil, Caribbean, Central America, Mexico and Southern Cone. The region has a population of more than 502 millions and the overall GDP is US\$ 1.863 Trillion for end of 2002. The biggest economies are that of Brazil and Mexico that jointly comprise more than 60% of the economy of the region.

In regards to the satellite operators that are doing business in the region we have two kinds: domestic operators and international satellite operators. Argentina, Brazil and Mexico are the countries with domestic operators.

Mexico until now has only one operator Satmex (satmex.com.mx) which provide C & Ku-Band services in the region. Satmex is controlled by Loral Space and Principia (Mexican Group) and a Golden Share from the Ministry of Communications of Mexico.

The Latin American market beside the local operators has more eight international operators (see table 1). The coverage provided by the international operators in general is partial in the sub-region of Latin America. The main international players are Intelsat (Former PT&T Consortium), Panamsat (controlled now by NewsCorp), New Skies (Spin-off of Intelsat), SES Americom (controlled by SES Global), Telesat (Canadian satellite operator), Eutelsat (own by European PTTs), Hispasat (Spanish operator

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with minority control from Eutelsat) and Loral Skynet (owned by Loral Space).

Beside this large number of players, the market in Latin America is soft at this stage. A recent study by Frost & Sullivan revealed that the number of transponders available and the number of transponder in use during the next 5 years is going to keep the providers with an average 50% of oversupply. This could change if the economics of the region and the price of the space segment are revised by the main players or some market consolidation happen in the region. Additionally key projects could change the overall environment in Latin America with the implementation of Distance Education via satellite, domestic DTH and Internet access for remote Schools with support of world organizations and third world development funds. **SM**

Satellite Operators in Latin America				
Satellite Carriers	Geo Satellite	Band	Geo Satellite	Band
	in Operation		Planned	
Domestic				
Star One	4	C	1	C & Ku
Nahuelsat	1	Ku	1	C & Ku
Satmex	2	C & Ku	1	C & Ku
Loral Skynet do Brasil	1	Ku	*	
Hispamar			1	C & Ku
International				
Hispasat	2	Ku	-	-
Loral Skynet	1	Ku	1	Ku
SES-American	9	C & Ku	2	C & Ku
Panamsat	14	C & Ku	3	C & Ku
Telesat	2	C & Ku	1	C & Ku
Intelsat	14	C & Ku	-	-
NewSkies	2	C & Ku	1	C & Ku
Eutelsat	3	Ku	-	-
Total	55		12	



Bernardo Schneiderman has over 20 years of experience in Satellite Communications and is the President of Telematics Business Consultants based in Irvine, CA. He has been working in Business Development, Sales and Marketing for Satellite Carriers, VSAT Equipment Manufacturer and Consulting Companies in the USA, Latin America, Brazil and Africa developing business for the Telecom, Broadcast and the Enterprise Market Segment. He was the editor of the Publication Brazil Telematics Newsletter during 1995 – 2003. He has a MBA from University of San Francisco with Major in Telecom and International Marketing and BSEE from UFRJ in Brazil. He can be reached at: tbc-telematics@cox.net

FEATURES

Digital Cinema: Ready, Set Action!

By Joe Amor

If you thought HDTV was cool, wait until you see a digital movie on the big screen. Your wait may soon be over as digital cinema may achieve widespread adoption. And like content for many of today's industries, those digital movies will be delivered via satellite.

The concept of digital cinema has long been on the wish lists of Hollywood studio executives, some theatre owners and the myriad technical disciplines that bring epics like "The Lord of the Rings" to life. As you know from watching Peter Jackson's trilogy, movies today are extremely hi-tech undertakings.

is on the big screen today. You should see them! They are absolutely stunning!

To overcome these challenges, the Digital Cinema Initiative (DCI), a joint partnership of seven of the industry's studios, is in the final process of establishing digital cinema standards. And those standards are of the highest quality available today and taking into account tomorrow's best of breed concepts. Color and clarity is far superior to what the best High Definition Television (HDTV) can offer to the home.

Projector manufacturers, led in large part by Texas Instruments' DLP Cinema chipsets, present screen images in "2K resolution" which has 2048 lines of

For example, the server showing a copy of "The Alamo" at the Main Street Cinema may not be compatible with the server showing the same movie down at the Mall Cineplex. Why? Two different server brands can't play the different file formats. And you thought only the satellite industry boxed itself into these types of quagmires.

As mentioned before, DCI, the motion picture standards group, is finalizing a single release format. Once that process is completed interoperability standards for server manufacturers will exist. The result will allow the Main Street Cinema and the Mall Cineplex to screen the exact same version of "The Alamo."



But the slick 21st century product is literally trucked to the movie theatres on 100-year old celluloid film. While celluloid served the industry well in the last century, it's time to usher in digital cinema. And as a lot of people in the movie and satellite business already know, the technology fully exists to integrate movie delivery from the studios to your local cineplex, anywhere on this planet.

Scene 1: Coming into Focus

One of the historical technology challenges was making sure that digital movies would be better quality than what

horizontal resolution. 'Going to the movies' will remain a special phrase in our everyday vocabulary, as we will still have those special moments that touch our hearts on the big screen.

Scene 2: Serving Everyone's Needs

To distribute a digital version of a major motion picture now, the studios master the film in five different formats – three of which are derivatives of the MPEG format. Then the studio has the costly logistical challenge of getting the right version to the right cinema.

Scene 3: The Plot Thickens

Once the various versions are consolidated into a single version, like that which is done on film today, then the natural benefits of satellite's point-to-multipoint services really make financial sense. In today's paradigm a movie distributor pays several millions of dollars for each release. However with Microspace's VELOCITY® satellite services delivering the same movie in a point to multipoint fashion, that same movie can be distributed for a few tens of thousands of dollars. And, if the movie turns out to be a sleeper-hit and they

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want to suddenly widen the release to more screens, the per-screen cost of distribution can actually go further down, not up!

Scene 4: Piracy with the Camcorders

Piracy in the motion picture industry is a multi-billion dollar problem. As disclosed by several industry experts this spring, motion picture theft amounted to \$3-4 billion in 2003 alone. Interestingly enough the biggest problem is guys with camcorders in darkened movie theatres. This theft now even has a name: "camcording".

While camcording is best stopped by the theatre owner's and their staffs, DCI is also setting encryption standards for the industry. You may ask, what type of encryption are they going to use? While that has not been completely finalized, the direction is similar in nature to what the United States Department of Defense uses.

While satellite networks are not infallible, every bit of Hollywood's multiple layers of encryption standards will promote the integrity of their content. Then possibly adding onto that additional conditional

access with very frequent key rotations, satellite delivery of movies can be done without the skull and crossbones of hacking pirates.

Coming to a Theatre Near You!

Right now digital cinema is being shown in a couple hundred cinemas around the world. As 2004 progresses, DCI will set the motion picture industry standards. Projectors and servers will be bought, deployed and implemented. Then you will see the incredible difference, as digital cinema begins coming to a theatre near you. **SM**



Joe Amor is Vice President and General Manager of Microspace Communications Corp, the largest business satellite broadcasting network operator in the world, with over 300,000 remote sites. Microspace is a member of the International Theatre Equipment Association and the Society of Motion Picture and Television Engineers' DC28 committee, a forum to address technologies and develop and recommend standards for digital cinema. Joe can be reached at jamor@microspace.com.



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VIEWPOINT

Building the Next-Generation Broadcasting Satellite

By Bruce Elbert
 President, Application Technology Strategy Inc.

The high-power satellites we use to broadcast TV direct to the home have not changed appreciably from the design conceived in the early 1980s by COMSAT's Satellite Television Corporation. There are more transponders and up to 12 digital video channels per transponder, but the old, reliable bent pipe design pioneered in 1972 on Intelsat IV is very much the norm. Experiments like Eutelsat's digital processing Skyplex multiplexer add a new TV network flavor, and DIRECTV uses multiple-spot beams to focus local TV into local communities. Looking ahead, what would a truly next generation satellite do for DBS?

The satellite platforms themselves have grown in physical size and, importantly, their power generating capability. The 20 kW vehicle is now a reality, allowing very high-power communications payloads that transmit lots of information to small receiving dishes. From there, we need to consider digital technologies within the payload that facilitate greater communications functions that benefit subscribers and operators.

Options available to architects and designers of the next generation may take the following form:

- Multi-beam repeaters that reuse frequency spectrum and permit "local service" to major metro areas and smaller countries. Mandated in the US to assure that over-the-air broadcasters

reach the burgeoning DTH subscriber base, local service allows DIRECTV and DISH networks to overcome an old bugaboo in satellite TV. Multi-beam technology is flying on DIRECTV 4S, demonstrating that at least one operator is willing to wager for value from this arrangement

- Digital processing down to the MPEG packet level to rebuild the transport multiplex on board the

"The satellite platforms themselves have grown in physical size and, importantly, their power generating capability."

satellite. Combined with the multi-beam repeater, the potential for switching and routing of MPEG-formatted data presents an opportunity for rearranging how the video is uplinked from broadcast centers. This affords much greater flexibility of delivering regional and even local programming in terms of content, advertising and service management.

- Convergence of data with video and audio through the principle of Internet Protocol Encapsulation (IPE), which is already used in several VSAT

network architectures as well as content distribution networks tailored for that purpose. We can imagine that Internet-based content and applications can be woven through a DBS service.

- Return channels from the home over the same satellite, using Ka band spectrum. This is the concept launched into orbit on Astra 1K and 2B by SES Astra. As yet, the concept appears to lack much support. But, the artful combination with one or more of the previously-mentioned technologies could bring us a lot closer to the dream of true interactive TV (ITV).
- Ka band VSAT technology, produced in high volume and sold at low cost. This will appear as early as the first quarter of 2005, thanks to the entrepreneurship of WildBlue and ViaSat. Once this is proven, the way is clear for others to follow this lead and make the ground pieces of ITV an affordable reality.

Selecting from this list of tools is a challenge for developers of next generation BSS systems and services. It's a case of the old adage, "just because you can do something doesn't mean you should". The Europeans have been experimenting for years with Skyplex Multiplexer and Telesat Canada will likely

VIEWPOINT

launch one late this year. With the ability to receive a quantity of individual MPEG 2 transmissions and combine them on-board into a single multi-channel transport stream, it is intended to allow contribution from different locations and direct distribution by satellite without passing through a common broadcast center. While it works from a technical perspective, the system is still looking for that application which justifies the investment. Likewise in Europe, Armed Forces Radio and Television Service (AFRTS) is delivering a five-channel DTH package to US Forces who crave American news and entertainment. The underlying programming is a combination of time shifting and rebroadcast. Like the HBO ensemble back home, AFRTS offers programming choice to subscribers without having to develop the requisite content. Perhaps the right form of on-

board processing combined with greater variety in programming formats will better address such narrow-cast markets.

DTH platforms that incorporate the right innovations are likely to appear in two to five years. These can compete head to head with cable, and allow emerging markets and remote locations to take part

in the convergence of various digital media. Content can be created, edited and managed from anywhere in the satellite's coverage area, and delivery becomes as easy as the click of a remote control. We are speaking of SD or HD video, high quality audio, and extension of the World Wide Web; how it finds its way into the market is something we will all have the pleasure to behold. **SM**

Bruce Elbert has over 30 years of experience in satellite communications and is the President of Application Technology Strategy, Inc., which assists satellite operators, network providers and users in the public and private sectors. He is an author and educator in these fields, having produced seven titles and conducted technical and business training around the world. During 25 years with Hughes Electronics, he directed major technical projects and led business activities in the U.S. and overseas. He is the author of The Satellite Communication Applications Handbook, second edition (Artech House, 2004). Web site: www.applicationstrategy.com Email: bruce@applicationstrategy.com



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MARKET INTELLIGENCE



The Asia Pacific Broadband Satellite Services Market

By Jose del Rosario
GVF Associate Member &
Senior Analyst, NORTHERN SKY RESEARCH

In the Asia Pacific, the take up rate of satellite-based broadband services has been extremely low compared to terrestrial alternatives. However, satellite technology can play a vital role in the region since topographical challenges will limit the amount of terrestrial buildout if governments and multilateral agencies hope to bridge the Digital Divide within a reasonable length of time.

Total bandwidth needs for satellite links should grow from about 7.0 Gbps in 2002 to close to 13 Gbps, or almost double the capacity by 2007. This growth can be considered moderate given that terrestrial technologies are growing at more dynamic rates historically and will continue over the near term. This can be attributed to the fact that satellites are used in underserved and remote areas where development of the Internet is slower compared to urban areas that are being tapped by wireline platforms.

The major drivers for bandwidth increases include the continued expansion of the Internet across the region, as well as the staggering pace of development in China and other key markets. China had 59.1 million Internet users by the end of 2002, the second largest number in the world after the United States. The number of "netizens" accounted for 4.6 percent of China's population of some 1.3 billion. It is predicted that the number of net surfers in China would jump 46 percent to 86.3 million by the end of 2003. Annual revenue growth for satellite-based services will be moderate but steady. Revenues should more than double from 2002 to 2007, representing modest but healthy growth overall.

The Greater China market led by Mainland China, as well as the South Asia market led by India, will be the main drivers of satellite-based demand for the entire region. Australasia led by Australia will garner a relatively large part of revenues; however, the market is maturing in that sub-region such that growth is likely to be flat towards the latter years of the forecast. In East Asia and Southeast Asia, stable revenues are expected. Satellite usage in East Asia is maturing much like Australia, while usage in Southeast Asia has a large potential; however, the sub-region's socioeconomic

condition is expected to restrain growth until the end of the forecast period.

In terms of the revenue breakout for specific business units, the market is expected to shift from Internet trunking to broadband enterprise services over time. In the developed countries of the region (Japan, Korea, Hong Kong, Taiwan, and Singapore), Internet trunking services for ISP links have largely been abandoned in favor of fiber trunking. Although the region's topography fosters the need for satellite links, price points inhibit adoption and use of satellite platforms for cash-strapped developing countries. Residential Direct Internet Access Services are not expected to account for a large percentage of revenues. High price points compared to terrestrial technologies and slow development of the Internet in rural and remote areas largely stifle demand for these services.

The wholesale market is expected to exhibit a relatively low compound annual growth rate (CAGR) as satellite services begin to progressively lose out to fiber for trunking needs. The region, which is currently experiencing overcapacity, will also add price pressure such that wholesale transponder costs will likely continue to decline over time. As such, retail margins are expected to widen as operational costs from the service providers decline. Margins are also expected to improve as premium broadband enterprise services begin to impact the overall market more extensively.

Ku-band will continue to be preferred over C-band. C-band revenue growth is actually expected to turn negative due to declining price points as well as a shift of the end user base to Ku-band.

For More Information, go to: <http://www.northernskyresearch.com/reports> and <http://www.gvf.org>

